



August 30, 1993

Donald Ford
Tobacco Research Institute
Council For Tobacco Research
900 3rd Avenue
New York, NY 10022

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Dear Mr. Ford,

This letter is in regard to a chemistry research program that you may find sufficiently interesting to consider funding. My laboratory has begun a program to transform nicotine into taxol. Taxol has gained renown, including front page coverage in the New York Times, for its clinical effectiveness against a variety of cancers, particularly ovarian, breast, and lung cancers.

You may be aware of the critical need for taxol and the Herculean effort expended in procuring it from the sole source: the scarce Pacific Yew tree. Ours is a unique tactic for construction of taxol using a highly efficient photochemical (light-activated) transformation of chemical structures known as pyridones. Nicotine is an ideal starting material as it is largely composed of pyridine, a close cousin of pyridones. The remaining atoms making up the nicotine structure are precisely positioned for use in our synthesis scheme. A talented and dedicated graduate student, Gary Hiel, has done all of the preliminary work on the transformation of nicotine and has found an efficient pathway for the early steps. Much work remains to be done, however.

Our efforts to use nicotine as a starting point for taxol synthesis is a component of a larger photochemistry research effort.* This research program is partially funded by the National Institutes of Health (NIH) and this funding has allowed us to make great headway. However, funding remains very difficult in general and we are greatly concerned about continued funding for this research project.

The taxol story has been an outstanding success for public education on the value of chemistry research. This new twist to the story, taxol from nicotine, could provide a new source of this valuable drug and may be valuable for your own public education efforts. I might add that a total synthesis of taxol has not been achieved, despite efforts by all of the major synthetic chemistry groups.

Finally, let me add that we are a State research institution and are therefore very efficient in our use of funding and rather flexible about the terms of funding agreements. My own background includes seven years of industrial research experience. I have included a program from a recent symposium we sponsored in May which describes the taxol story in a bit more detail. Please contact me at the number or address listed below if you would like any additional information.

Thank you for your time.
Sincerely,

Scott Sieburth
Assistant Professor of Chemistry

* For example, see: S. McN. Sieburth and J.-I. Chen, *Journal of the American Chemical Society* 1991, 113, 8163-8164.

J. H. Sieburth